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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/524,702      | 10/13/2005  | Eckard Steiger       | 10191/4158          | 1388             |

26646 7590 01/31/2007  
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| EXAMINER |
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SINGH, HIRDEPAL

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2109

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/31/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                               |                                |  |
|------------------------------|-------------------------------|--------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/524,702 | Applicant(s)<br>STEIGER ET AL. |  |
|                              | Examiner<br>Hirdepal Singh    | Art Unit<br>2109               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/16/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to the Preliminary amendment filed on February 16, 2005.  
The Preliminary amendment cancelled the claims 1-13 and added new claims 14-26.  
Thus claims 14-26 are pending and have been considered below.

#### ***Information Disclosure Statement***

1. The information disclosure statement filed February 16, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. None of the references cited in the IDS have been considered because the applicant as required has provided no copy or translation.

#### ***Specification***

2. If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the

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reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional

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information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

3. The disclosure is objected to because of the following informalities: On page 7 lines 4-6 it reads as "In return, 8-bit.... in field 15. Field 16....in the present case." However, figure 2b doesn't have fields 15, and 16. It seems like a typo error, the Examiner suggests deleting the two above-mentioned sentences.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 21 recites the limitation "the at least one sensor" in line 1. This claim is dependent on claim 14, but claim 14 has " at least one inertial sensor". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 14, 15, 17-20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Mason et al. ("A Generic Multielement Microsystem for Portable Wireless Applications" Proceeding of IEEE, VOL 86, No 8, August 1998).

Claim 14: Mason discloses a system comprising;

- a. a housing with a variety of sensors and microcontrollers (fig1; page 1733, column 1, lines 1-5);
- b. a processor/controller connected to front end sensors through sensor bus (fig 1; page 1733, column 1, lines 2-6);
- c. a sensor situated in the housing (for measuring temperature, humidity, acceleration i.e. inertial sensor) (page 1733, column 1, lines 4-12);

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d. data transmission between the "smart" sensor and the processor/controller is in digital form (fig 2(d); page 1733, introduction: paragraph 1).

Claim 15: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses that the sensor bus has four lines for synchronous serial communication, and a standard interface between processor/controller and front end sensors (Page 1737, column 1, lines 11-14; page 1734, column 2, lines 20-24).

Claim 17: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses that the data transmission is bidirectional i.e. the controller/processor sends read and write instructions to the sensors (page 1734, column 1, lines 32-39, and page 1737, column 1, lines 30-40).

Claim 18: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses that the data transmission triggers the testing of sensors/devices within the system (page 1742, column 1, paragraphs 1 and 2).

Claim 19: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses that the data

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transmission triggers the sensor offset regulation, switches it to different operating state (page 1737, column 1, last paragraph; and page 1742, column 1, last paragraph).

Claim 20: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses the data transmission through synchronous serial lines with a chip select/enable line (page 1737, column 1, paragraph 1 and 2).

Claim 22: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further discloses that data transmission triggers the sensor from one operating state to another operating state (page 1737, column 1, paragraphs 1 and 2; and page 1742, column 1, paragraph 1 and 2).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



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9. Claims 16, 21, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mason et al. ("A Generic Multielement Microsystem for Portable Wireless Applications" Proceeding of IEEE, VOL 86, No 8, August 1998).

Claim 21: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, but doesn't explicitly disclose that the sensors has a multichannel design. However, since Mason sensors have multiple functions as measuring acceleration and or vibration, sending and receiving data through sensor data bus, coupled to the processor/controller through chip select/enable, and connected to the power supply etc, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a multichannel sensor for the Mason system. One would have been motivated to use a multichannel design in order to optimize the disclosed communication with the processor/controller, and to enable Mason system to perform the multiple functions.

Claims 23-26: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, and further disclose that this system could be used for environmental monitoring, temperature measurement, barometric pressure measurement, relative humidity measurement, and acceleration/vibration measurement, but doesn't explicitly disclose that the system is to be used as a part of a restraint system, vehicle dynamic control system, one of a sensor box and a sensor cluster, and a vehicle navigation system as claimed by the applicant.

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However, the control system as a part of a restraint system, vehicle dynamic control system, one of a sensor box and a sensor cluster, and a vehicle navigation system are intended uses, but not a part of the claimed system. Therefore, little if any, patentable weight is given to the intended uses. Furthermore, it would have been obvious to one having ordinary skill in the art at time the invention was made to use the Mason system or the system described by the applicant as a part of restraint system, vehicle dynamic control system, one of a sensor box and a sensor cluster, and a vehicle navigation system. One would have been motivated to use the portable, low power consuming, able to eliminate interferences and nonlinearities, and highly efficient system as a part of environmental monitoring, temperature measurement, barometric pressure measurement, relative humidity measurement, acceleration/vibration measurement, a restraint system, vehicle dynamic control system, one of a sensor box and a sensor cluster, and a vehicle navigation system or the like.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mason et al. ("A Generic Multielement Microsystem for Portable Wireless Applications" Proceeding of IEEE, VOL 86, No 8, August 1998) as applied to claim 14 above, and further in view of Boggs et al. (US 2001/0037491).

Claim 16: Mason discloses a system with digital data transmission between sensors, and processor/controller as in claim 14 above, but doesn't explicitly disclose that the data transmission has one error bit and one status bit. Boggs discloses a similar control

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system including logic controller and input sensors (paragraph 0005) having data transfer with error bit and parity bit (Paragraphs 132, 136, 137, 199, 202, 238-240).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the error bit and status bit with data transfer. One would have been motivated to use this in order to check the status of the system sensors and to check/correct the error in the transferred data.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lind et al. (US 2003/0033032) discloses a system for controlling a process with sensors and processor.

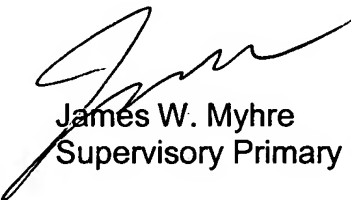
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hirdepal Singh whose telephone number is 571-270-1688. The examiner can normally be reached on Mon-Fri (Alternate Friday Off) 8:30AM- 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Myhre can be reached on 703-308-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

H.S.  
1/22/2007



James W. Myhre  
Supervisory Primary Examiner